

CLAIMS

- 1.- A color projection system for projecting an image on a screen, comprising at least one light source (52) for emitting a white light beam, a light splitting means for splitting said white light beam into color subbeams
5 each comprising light of a different wavelength or wavelength range, for each of said color subbeams a light modulating means (56), and a dichroic prism (70) for recombining said color subbeams, each of said modulating means (56) positioned adjacent to a side of said dichroic prism (70),
10 wherein said color projection system furthermore comprises further optical components for imaging each of said color subbeams onto the relevant light modulating means (56) such that the images of each of said color subbeams on the corresponding light modulating means (56) have a substantially equal size and such that the images of each of said color
15 subbeams on the screen have the same orientation.
- 2.- A color projection system according to claim 1, wherein images of each of said color subbeams have a substantial equal size comprises that differences between the size of said images of each of said color beams
20 on the corresponding light modulating means are smaller than 5%, preferably smaller than 1 %, more preferably smaller than 0.5%.
- 3.- A color projection system according to claim 1, said color projection system adjusted such that the light path from the at least one light source
25 (52) to behind the dichroic prism (70) is situated in one plane.
- 4.- A color projection system according to claim 1, wherein for an image representing a plane of equal color , the distance between the average color coordinates in the 1976 CIE Chromaticity Diagram for the ANSI-
30 points at the left side of the image on the screen and for the ANSI-points at the right side of the image on the screen is smaller than 0.01, preferably smaller than 0.007, most preferably smaller than 0.005.

- 5.- A color projection system according to claim 1, said further optical components comprising a first imaging lens (54), whereby for each color subbeam the light path length between the first imaging lens (54) and the light modulating means (56) is equal within 1%, preferably equal within 0,1%, more preferably equal within 0,01%.
- 6.- A color projection system according to claim 1, said further optical components comprising a first imaging lens (54) and said light splitting means comprising at least a first light splitting device (102) for splitting the white beam in a first color beam comprising light of a first wavelength or wavelength region and a further color beam, whereby said first light splitting device (102) is positioned in the pupil of the first imaging lens.
- 7.- A color projection system according to claim 6, wherein said first light splitting device (102) is a dichroic mirror.
- 8.- A color projection system according to claim 7, wherein said dichroic mirror has a small incidence angle dependency.
- 9.- A color projection system according to claim 8, said dichroic mirror transmitting a first part of the light beam and reflecting a second part of the light beam and having a 50% transmission point whereby 50% of the light beam is transmitted, wherein said small incidence angle dependency is such that the difference for the wavelength at which the 50% transmission point of the dichroic mirror is positioned for different angles of incidence, is smaller than 25nm, preferably smaller than 17nm, more preferably smaller than 7nm.
- 10.- A color projection system according to claim 1, wherein said further

optical components furthermore comprise color filters.

- 11.- A color projection system according to claim 1, wherein said optical components comprise a further number of imaging lenses (74) positioned in the light paths of the different color subbeams downstream the first imaging lens, wherein either for each color subbeam, the number of imaging lenses is even or for each color subbeam the number of imaging lenses is odd.
- 12.- A color projection system according to claim 1, wherein said optical components comprise a number of mirrors positioned in the light paths of the different color subbeams, wherein either for each color subbeam, the number of mirrors is even or for each color subbeam the number of mirrors is odd.
- 13.- A color projection system according to claim 1, wherein said light modulating means (56) are transmissive light modulating means and wherein said color projection system comprises no mirror between said transmissive light modulating means and said dichroic prism (70).
- 14.- A method for projecting a color image, comprising the steps of
 - driving one or more light sources (52) to create a white light beam,
 - splitting said white light beam in color subbeams, each comprising light of a different wavelength or wavelength region,
 - imaging each of said color subbeams on a light modulating means, positioned adjacent to a side of a dichroic prism (70),
 - modulating each of said color subbeams by said light modulating means (56) and recombining said modulated color subbeams in said dichroic prism (70),
 - projecting said recombined light beamcharacterized by said imaging each of said color subbeams on a light modulating means (56) is performed such that the image on the light modulating means (56) has equal size for each of said color subbeams

and such that the image on the screen has equal orientation for each of said color subbeams.

- 5 15.- A method for projecting according to claim 14, said imaging is performed
such that the light paths between a first imaging lens (54), being the
imaging lens closest in the light path to the at least one light source (52)
and the light modulating means (56) for each of the color subbeams are
equal in length within 1%, preferably equal within 0,1%, more preferably
equal within 0,01%.
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